

WHAT IS CLAIMED IS:

1. A compound of formula (I)



(I),

- 5 or a pharmaceutically acceptable salt, ester, prodrug, or solvate thereof, wherein

AA³ is selected from the group consisting of

- (1) glutaminyl,
- (2) phenylalanyl,
- (3) valyl, and
- (4) asparaginy;

10 AA⁴ is selected from the group consisting of

- (1) D-isoleucyl,
- (2) isoleucyl,
- (3) D-leucyl, and
- (4) D-alloisoleucyl;

15 AA⁵ is selected from the group consisting of

- (1) seryl,
- (2) methionyl,
- (3) allothreonyl,
- (4) threonyl, and
- (5) tyrosyl;

20 AA⁶ is selected from the group consisting of

- (1) norvalyl,
- (2) seryl,
- (3) tryptophyl,
- (4) glutaminyl, and
- (5) prolyl;

25 AA⁷ is selected from the group consisting of

- (1) isoleucyl,
- (2) D-isoleucyl,
- (3) lysyl(acetyl), and
- (4) prolyl; and

30 AA¹⁰ is selected from the group consisting of

- (1) D-alanylamine,
- (2) ethylamine, and
- (3) isopropylamine;

with the proviso that one of AA⁴ and AA⁷ is a D-amino acid.

2. A compound according to Claim 1 wherein AA⁴ is D-Ile.

3. A compound according to Claim 2 selected from the group consisting of

N-Ac-Sar-Gly-Gln-D-Ile-Thr-Nva-Ile-Arg-Pro-D-AlaNH₂,
N-Ac-Sar-Gly-Phe-D-Ile-Thr-Nva-Ile-Arg-Pro-D-AlaNH₂,
N-Ac-Sar-Gly-Val-D-Ile-alloThr-Nva-Ile-Arg-ProNHCH₂CH₃,
5 N-Ac-Sar-Gly-Val-D-Ile-Thr-Nva-D-Ile-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Gln-D-Ile-Thr-Nva-D-Ile-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Asn-D-Ile-Thr-Nva-Lys(Ac)-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Val-D-Ile-alloThr-Ser-Ile-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Gln-D-Ile-alloThr-Nva-Ile-Arg-ProNHCH₂CH₃,
10 N-Ac-Sar-Gly-Val-D-Ile-alloThr-Nva-Pro-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Val-D-Ile-Thr-Gln-D-Ile-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Val-D-Ile-Met-Nva-Ile-Arg-Pro-D-AlaNH₂, and
N-Ac-Sar-Gly-Val-D-Ile-alloThr-Pro-Ile-Arg-ProNHCH₂CH₃.

4. A compound according to Claim 1 wherein AA⁴ is D-Leu.

5. A compound according to Claim 4 selected from the group consisting of

N-Ac-Sar-Gly-Asn-D-Leu-Ser-Nva-Ile-Arg-ProNHCH₂CH₃, and
N-Ac-Sar-Gly-Asn-D-Leu-Thr-Ser-Ile-Arg-ProNHCH₂CH₃.

6. A compound according to Claim 1 wherein AA⁴ is D-alloIle.

7. A compound according to Claim 6 selected from the group consisting of

N-Ac-Sar-Gly-Val-D-alloIle-Ser-Thr-Ile-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Gln-D-alloIle-Tyr-Nva-D-Ile-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Gln-D-alloIle-Thr-Nva-Ile-Arg-Pro-D-AlaNH₂,
5 N-Ac-Sar-Gly-Val-D-alloIle-Thr-Trp-Ile-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Val-D-alloIle-Ser-Ser-Ile-Arg-ProNHCH(CH₃)₂,
N-Ac-Sar-Gly-Val-D-alloIle-Thr-Trp-D-Ile-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Val-D-alloIle-alloThr-Gln-Ile-Arg-ProNHCH₂CH₃, and
N-Ac-Sar-Gly-Val-D-alloIle-Ser-Ser-Ile-Arg-Pro-D-AlaNH₂.

Sub A1/ 8. A pharmaceutical composition comprising a compound of Claim 1, or a pharmaceutically acceptable salt, ester, prodrug, or solvate thereof, and a pharmaceutically acceptable carrier.

9. A method of treating a patient in need of anti-angiogenesis therapy comprising administering to the patient in need a therapeutically effective amount of a compound in Claim 1, or a pharmaceutically acceptable salt, ester, prodrug, or solvate thereof.

Sub A1/ 10. A composition for the treatment of a disease selected from cancer, arthritis, psoriasis, angiogenesis of the eye associated with infection or surgical intervention, macular degeneration and diabetic retinopathy comprising a peptide as defined in Claim 1, or a pharmaceutically acceptable salt, ester, prodrug, or solvate thereof, in combination with
5 a pharmaceutically acceptable carrier.

11. A method of isolating a receptor from an endothelial cell comprising binding a peptide as defined in Claim 1, or a pharmaceutically acceptable salt, ester, prodrug, or solvate thereof, to the receptor to form a peptide receptor complex; isolating the peptide receptor complex; and purifying the receptor.
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Sub A1/ 12. A compound selected from the group consisting of
N-Ac-Sar-Gly-Gln-D-Ile-Thr-Nva-Ile-Arg-Pro-D-AlaNH₂,
N-Ac-Sar-Gly-Phe-D-Ile-Thr-Nva-Ile-Arg-Pro-D-AlaNH₂,
N-Ac-Sar-Gln-Val-D-Ile-Thr-Nva-Ile-Arg-ProNHCH₂CH₃,
5 N-Ac-Sar-Gly-Val-D-Ile-alloThr-Nva-Ile-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Val-D-Ile-Thr-Nva-D-Ile-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Asn-D-Leu-Ser-Nva-Ile-Arg-ProNHCH₂CH₃,
N-(6-Me-Nicotinyl)-Sar-Gly-Val-D-Ile-Thr-Nva-Ile-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Val-Ile-Thr-Nva-D-Ile-Arg-ProNHCH₂CH₃,
10 N-Ac-Sar-Gly-Val-D-alloIle-Ser-Thr-Ile-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Gln-D-Ile-Thr-Nva-D-Ile-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Asn-D-Ile-Thr-Nva-Lys(Ac)-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Gln-D-alloIle-Tyr-Nva-D-Ile-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Gln-D-alloIle-Thr-Nva-Ile-Arg-Pro-D-AlaNH₂,
15 N-Ac-Sar-Gly-Asn-D-Leu-Thr-Ser-Ile-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Val-D-Ile-alloThr-Ser-Ile-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Gln-D-Ile-alloThr-Nva-Ile-Arg-ProNHCH₂CH₃,

- N-Ac-Sar-Gly-Val-D-Ile-alloThr-Nva-Pro-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Val-D-alloIle-Thr-Trp-Ile-Arg-ProNHCH₂CH₃,
20 N-Ac-Sar-Gly-Val-D-alloIle-Ser-Ser-Ile-Arg-ProNHCH(CH₃)₂,
N-Ac-Sar-Gly-Val-D-Ile-Thr-Gln-D-Ile-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Val-D-alloIle-Thr-Trp-D-Ile-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Val-D-alloIle-Thr-Nva-Ile-Arg-D-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Val-D-Ile-Met-Nva-Ile-Arg-Pro-D-AlaNH₂,
25 N-Ac-Sar-Gly-Val-D-Ile-alloThr-Pro-Ile-Arg-ProNHCH₂CH₃,
N-Ac-Sar-Gly-Val-D-alloIle-alloThr-Gln-Ile-Arg-ProNHCH₂CH₃, and
N-Ac-Sar-Gly-Val-D-alloIle-Ser-Ser-Ile-Arg-Pro-D-AlaNH₂.